

## NASA begins J-2X powerpack testing

Engineers at NASA's Stennis Space Center conducted an initial test of the J-2X engine powerpack Feb. 15, kicking off a series of key tests in development of the rocket engine that will carry humans deeper into space than ever before. The test was the first of about a dozen various powerpack tests that will be conducted throughout the year at Stennis. The initial test was designed to ensure powerpack and facility control systems are functioning properly. It also marked the first step in establishing start sequencing for tests and was the first time cryogenic fuels were introduced into the powerpack to ensure the integrity of the facility and the test article in preparation for full power, longer duration testing. The powerpack comprises components on the top portion of the J-2X engine, including the gas generator, oxygen and fuel turbopumps, and related ducts and valves that bring the propellants together to create combustion and generate thrust. See related article on Page 3. See video of the test at: [www.nasa.gov/mission\\_pages/j2x/](http://www.nasa.gov/mission_pages/j2x/).



## Stennis leads way in Combined Federal Campaign

Stennis Space Center led the way in two categories in the 2011 Southern Mississippi Combined Federal Campaign effort, ranking first in the number of Eagle Givers and in dollar increase of contributions.

Southern Mississippi officials cheered the results of the 2011 giving campaign, the largest annual workplace charity effort in the nation. Federal employees and military personnel in the Southern Mississippi region raised more than \$807,000 for health and human service charities around the world during the campaign, surpassing their goal by 10 percent.

Stennis contributed \$221,000 through the campaign. Stennis had the most Eagle Givers, donors of more than \$480 each, in the region. It also recorded the largest dollar increase in gifts from one year to the next. The \$221,000 in contributions was \$31,000 more than

given by center employees in 2010.

Stennis Director Patrick Scheuermann praised the effort. "The commitment of the Stennis family to helping others was demonstrated yet again during the most-recent campaign," he said. "In a time when needs are high, the Stennis family responded with its greatest effort to show how much it cares."

Stennis CFC Chair Michael Lemmons, Special Boat Team TWENTY-TWO weapons officer, echoed the sentiment. "We at Special Boat Team TWENTY-TWO would like to congratulate the hard working employees of Stennis Space Center for their heroic efforts in raising over \$221,000 of donations during this year's Combined Federal Campaign," he said. "Your care and concern for those in need is beyond extraordinary, especially in our struggling economy."

*“(The) breadth of activity (at Stennis) represents a diverse project base that touches many programs that are key to NASA’s spaceflight future.”*



From the desk of  
**Keith Brock**

Director, Project Directorate, Stennis Space Center

Stennis projects are alive and well in 2012!! On the propulsion testing front, we will have seven positions in test operations mode by springtime: two testing positions for the J-2X engine and one each for the AJ26 engine (Orbital Sciences Corporation), the BE-3 engine thrust chamber assembly (Blue Origin), the RS-68 engine (Pratt & Whitney Rocketdyne), the chemical steam generators for A-3, and lander testbed thrusters (Morpheus).

This breadth of activity represents a diverse project base that touches many programs that are key to NASA’s spaceflight future. We remain closely linked to the Marshall Space Flight Center in Huntsville, Ala., as the key propulsion testing site for Space Launch Systems elements and will be working with that facility this budget cycle to establish testing needs required for the first scheduled launch in 2017.

The A-3 Test Stand is nearing the final phase of construction, and its associated chemical steam generator testing in the E Test Complex is nearing completion. We are also continuing to strengthen our agreements with commercial test projects, including Orbital Sciences and Blue Origin for work in the E complex.

On the applied science front, we have developed remote sensing capabilities in the Gulf of Mexico and leveraged them to address important issues across the country and around the world. Working with the U.S. Geological Survey and the State Department, we created a system to monitor the Mekong River watershed in Vietnam to help them make informed environmental management decisions. Working with the U.S. Forest Service, we created a real-time forest threat early warn-

ing system for the country that uses remote sensing to identify damage from storms, invasive species and droughts, and helps them optimize their limited field resources. Locally, we are working to improve monitoring of oyster beds to provide early warning of conditions that negatively affect the oysters and the public.

These are a few examples of the many really remarkable ways that the applied science effort here at Stennis brings tangible and relevant products to the user community. This year will be no different.

It is great to be busy doing the things that you came to Stennis to do! It really does make it one of the best places in the federal government to work! That said, it is the dedication, care and attention to detail from the entire Stennis workforce that has enabled the past successes. Continuing to demonstrate the high qualities that Stennis is known for remains the best drawing card for additional new work.

This year, 2012, should be another remarkable year for Stennis Space Center and its employees, filled with expected challenges, bold determination and the consistent drive to be the best!

I’m ready to do my part. And I know you are ready to do yours!!

Best wishes in 2012.

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## FULFILLING NASA'S EXPLORATION MISSION



Jeff Henderson (right), NASA test director on the A-1 Test Stand, points out aspects of the J-2X powerpack to media members during their Jan. 25 visit to Stennis Space Center. Media members from various outlets spent a morning at the NASA facility, touring sites involved in testing of the next-generation engine that will help carry humans deeper into space than ever before. Powerpack testing for development of the engine is under way on the A-1 Test Stand. Testing of J-2X engine No. 10001 will resume this spring on the A-2 Test Stand. The J-2X engine is being developed to provide upper-stage power for NASA's new Space Launch System.

## Test series focuses on J-2X powerpack

A new series of tests on the engine that will help carry humans to deep space began Feb. 15 at Stennis Space Center. The tests on the J-2X engine bring NASA one step closer to the first human-rated liquid oxygen and liquid hydrogen rocket engine to be developed in 40 years.

Tests are focused on the powerpack for the J-2X. This highly efficient and versatile advanced rocket engine is being designed to power the upper stage of NASA's Space Launch System, a new heavy-lift launch vehicle capable of missions beyond low-Earth orbit. The powerpack comprises components on the top portion of the engine, including the gas generator, oxygen and fuel turbopumps, and related ducts and valves that bring the propellants together to create combustion and generate thrust.

"The J-2X upper stage engine is vital to achieving the full launch capability of the heavy-lift Space Launch System," said William Gerstenmaier, NASA's associate administrator for the Human Exploration and Operations Mission Directorate. "The testing today will help ensure that a key propulsion element is ready to support exploration across the solar system."

About a dozen powerpack tests of varying lengths are slated now through summer at Stennis' A-1 Test Stand. By separating the engine components – the thrust chamber assembly, including the main combustion chamber, main injector and nozzle – engineers can more easily

push the various components to operate over a wide range of conditions to ensure the parts' integrity, demonstrate the safety margin and better understand how the turbopumps operate.

"By varying the pressures, temperatures and flow rates, the powerpack test series will evaluate the full range of operating conditions of the engine components," said Tom Byrd, J-2X engine lead in the SLS Liquid Engines Office at NASA's Marshall Space Flight Center in Huntsville, Ala. "This will enable us to verify the components' design and validate our analytical models against performance data, as well as ensure structural stability and verify the combustion stability of the gas generator."

This is the second powerpack test series for J-2X. Powerpack 1A was tested in 2008 with J-2S engine turbomachinery developed for the Apollo Program. Engineers tested the heritage components to obtain data to help them modify the design of the turbomachinery to meet the higher performance requirements of the J-2X engine.

"The test engineers on the A-1 test team are excited and ready to begin another phase of testing, which will provide critical data in support of the Space Launch System," said Gary Benton, J-2X engine testing project manager at Stennis.

For information about NASA's J-2X, visit online at: [www.nasa.gov/mission\\_pages/j2x/](http://www.nasa.gov/mission_pages/j2x/).

## FULFILLING NASA'S EXPLORATION MISSION

# A-2 Test Stand team prepares for continued J-2X testing

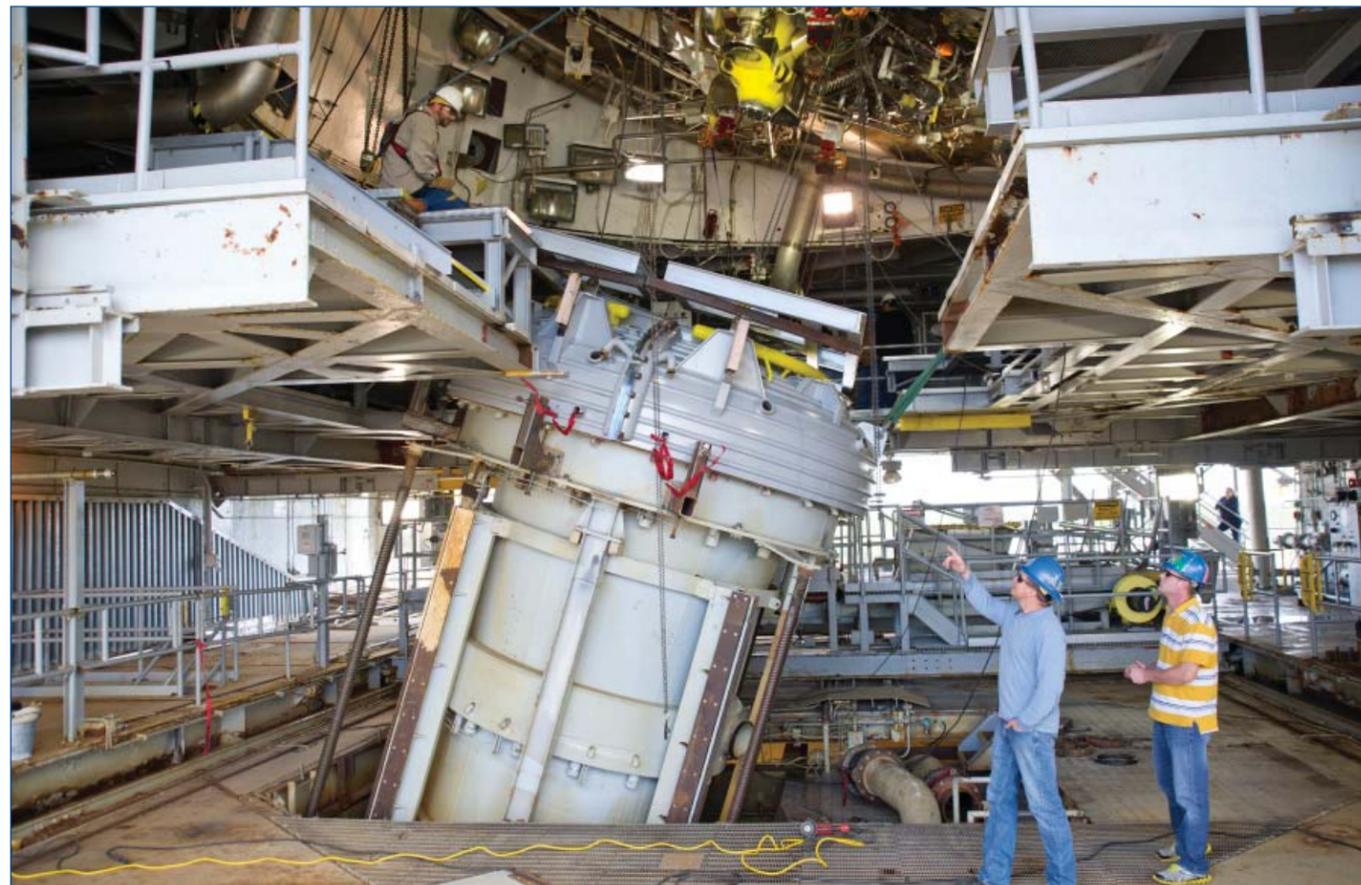
Preparations continue at the A-2 Test Stand to resume testing of J-2X rocket engine No. 10001 this spring. Stennis employees recently installed a new clamshell on the stand to enable early-altitude testing of the engine. The clamshell is joined to the diffuser to allow testing of the engine at a simulated altitude of 50,000 feet. The previous clamshell was designed for testing space shuttle main engines and had to be replaced for the new test series. Stennis engineers completed an initial series of sea-level tests on the next-generation J-2X engine in December 2011. The engine is being developed for Marshall Space Flight Center in Huntsville, Ala., by Pratt & Whitney Rocketdyne to provide upper-stage power for NASA's new Space Launch System. It is designed to carry humans deeper into space than ever before.

(Top right photo) Stennis employees maneuver the new testing clamshell into place on the A-2 Test Stand platform Feb. 4. The clamshell was subsequently moved into the heart of the test stand for full installation.

(Bottom right photo) The new J-2X clamshell is lifted onto the A-2 Test Stand during Feb. 4 operations. The equipment is being installed for a second series of tests on the J-2X rocket engine.

(Bottom left photo) Members of the A-2 Test Stand team perform work to complete installation of the J-2X clamshell in early February. Once the clamshell and other modifications are complete, the J-2X rocket engine will be returned to the stand for a second series of tests at simulated altitudes up to 50,000 feet.

For information on J-2X, visit: [www.nasa.gov/mission\\_pages/j2x/](http://www.nasa.gov/mission_pages/j2x/).



## NASA in the News

### NASA requests \$17.7 billion budget

NASA announced Feb. 13 a \$17.7 billion budget request for fiscal year 2013, supporting an ambitious program of space exploration that will build on new technologies and proven capabilities to expand America's reach into the solar system. Despite a constrained fiscal environment, the NASA FY13 budget continues to implement the space science and exploration program agreed to by President Barack Obama and a bipartisan majority in Congress, laying the foundation for ground-breaking discoveries here on Earth and in deep space, including new destinations, such as an asteroid and Mars by 2035. "This budget in-sources jobs, creates capabilities here at home – and strengthens our workforce, all while opening the next great chapter in American exploration," NASA Administrator Charles Bolden said. "And as we reach for new heights in space, we're creating new jobs right here on Earth, helping to support an economy that's built to last." The NASA budget includes \$4 billion for space operations and \$4 billion for exploration activities in the Human Exploration Operations mission directorate, including close-out of the Space Shuttle Program and funding for the International Space Station; \$4.9 billion for science; \$669 million for space technology; and \$552 million for aeronautics research.

### NASA releases Spinoff publication

NASA's *Spinoff 2011* publication, available online, reveals how the space agency's ingenuity and partnerships have saved thousands of lives, generated billions of dollars, and created thousands of American jobs. The latest edition of *Spinoff* records 44 journeys of NASA's most innovative technologies. It chronicles their origins in NASA missions and programs and their transfer to the public in the form of practical commercial products and benefits to society. *Spinoff 2011* is available online at: [www.sti.nasa.gov/tto/Spinoff2011/index.html](http://www.sti.nasa.gov/tto/Spinoff2011/index.html). To access an interactive feature about how NASA impacts daily life, visit: [www.nasa.gov/city](http://www.nasa.gov/city). For more about NASA's Office of the Chief Technologist, visit: [www.nasa.gov/oct](http://www.nasa.gov/oct).

### NASA video shows far side of moon

A camera aboard one of NASA's twin Gravity Recovery And Interior Laboratory (GRAIL) lunar spacecraft has returned its first unique view of the far side of the moon. MoonKAM, or Moon Knowledge Acquired by Middle school students, will be used by students nationwide to select lunar images for study. GRAIL consists of two identical spacecraft, recently named Ebb and Flow, each of which is equipped with a MoonKAM. The images were taken as part of a test of Ebb's MoonKAM on Jan. 19. The GRAIL project plans to test the MoonKAM aboard Flow at a later date. To view the 30-second video clip, visit: <http://go.nasa.gov/zZXAPs>.

# NASA outreach

## NASA senior staff members bring interactive exhibits, space-related activities to Hattiesburg elementary school



NASA senior staff members from Stennis Space Center visited Lillie Burney Elementary School in Hattiesburg, Miss., on Jan. 27, for a morning of activities and outreach to students and school officials. (Top left photo) Rick Gilbrech (l), deputy director at Stennis Space Center, and Katie Wallace, director of the Stennis Education Office, team up for a cryogenics presentation during Lillie Burney activities.

(Center left photo) Stennis mascot Orbie is presented to students during outreach activities.

(Bottom left photo) Stennis Deputy Director Rick Gilbrech (second from right) presents a commemorative plaque to school officials, including (l to r): Lillie Burney Principal Deborah Smith; Assistant Principal Dr. Bobbie Trussell; Hattiesburg Mayor Johnny DuPree; Hattiesburg Public School District Superintendent James Bacchus; Gilbrech; and District Assistant Superintendent Dr. Edna Thomas.

(Bottom photo) Freddie Douglas, manager of the Stennis Office of Safety and Mission Assurance, joins students to watch a robotic demonstration during morning-long activities at Lillie Burney school.

(Right photo) Students sign a "Reach for the Stars" banner to be displayed at their school.



## INFINITY facility opening soon

StenniSphere, the museum and visitor center at Stennis Space Center, closed its doors to the public, beginning Feb. 15. Closure of the museum and visitor center comes as the INFINITY at NASA Stennis Space Center science and education project moves forward. Various exhibits from StenniSphere, resident agencies at Stennis Space Center and other NASA facilities are being moved into the INFINITY facility to prepare for an April 12 opening to the public.

INFINITY will feature a Science Express area, Space Gallery and immersive theater. Graphic representation of the planned Earth Gallery will also be on display. Visitors will view up-close the work conducted at Stennis Space Center, the nation's largest rocket engine test facility and a unique federal city of more than 30 agencies and organizations

## Stennis remembers fallen Apollo, shuttle astronauts



Stennis Space Center Director Patrick Scheuermann (left) and Associate Director Ken Human place a wreath in the Roy S. Estess Building on Jan. 25 in memory of the NASA family who lost their lives while furthering the cause of exploration and discovery, including the astronaut crews of Apollo 1 and shuttles Challenger and Columbia. The wreath was placed during NASA's 2012 Day of Remembrance, which is observed each January. "Never forget the sacrifices of those before us, and let us work hard to make sure their sacrifices were not in vain," Scheuermann urged during the ceremony.

## ISS Action to provide security services at Stennis

ISS Action, headquartered at JFK Airport in Jamaica, N.Y., replaced Paragon Systems as the prime contractor for long-term security services at Stennis Space Center on Feb. 1, 2012.

ISS Chief Executive Officer Pamela Newman announced William Turner will continue as project manager at Stennis for ISS Action. ISS Action is a federally certified 8A woman-owned business.

ISS Action will provide security services at Stennis, including physical security operations, personnel security, access control, badging, 911 dispatch center, access monitoring, traffic control and locksmith services.



ISS Action officials recently visited Stennis Space Center, where the company has begun providing security services. Shown are (l to r): Nakita Ollivierre, ISS Action operations manager; William Turner, ISS Action project manager at Stennis; Pamela Newman, ISS Action chief executive officer; Martha Bounds, ISS office manager at Stennis; and Greg Garrett, Paragon Systems office manager at Stennis.

# Stennis test effort enables STS-29 mission

*Note: For more than 50 years, NASA's John C. Stennis Space Center has played a pivotal role in the success of the nation's space program. This month's issue of Lagniappe highlights a moment in the history of the south Mississippi rocket engine test center.*

Stennis Space Center played a key last-minute testing role in enabling space shuttle Discovery to fly its STS-29 mission in 1988, demonstrating again the NASA facility's commitment to expertise and excellence.

Discovery lifted off from Launch Pad 39-B at Kennedy Space Center on March 13, the third shuttle mission following the loss of Challenger in 1986. The launch originally was targeted for Feb. 18. However, NASA technicians discovered cracks in one of the high-pressure oxidizer turbopumps used on the Atlantis flight the previous December. The cracks were caused by stress corrosion apparently resulting from moisture trapped during the assembly process.

The decision was made to replace Discovery's space shuttle main engine pumps with ones assembled to new specifications that would eliminate moisture. Stennis Space Center was charged with testing the replacement

pumps to ensure they would operate as needed.

Three new pumps were assembled and shipped to NASA's south Mississippi test facility early in February. They were installed on a space shuttle main engine mounted on each of Stennis' large test stands – A-1, A-2 and B-1/B-2. All three were test-fired for 530 seconds, the same length of time they would fire during an actual launch. Following post-test inspections and evaluation of data, the three

pumps were certified flightworthy and shipped to Florida for installation.

Following flight readiness review, shuttle Discovery departed on its mission, which lasted just 22 minutes shy of five days. During the mission, the shuttle crew deployed its primary payload, Tracking and Data Relay Satellite-4, into orbit. Discovery also carried out several experiments and filmed Earth using a hand-held IMAX camera. The experiments included two submitted through the Shuttle Student Involvement Program to study the effects of

weightlessness on the development of fertilized chicken embryos and the healing of bones. Discovery returned to Earth on March 18, landing at Edwards Air Force Base in California.



Space shuttle Discovery lifts off from Kennedy Space Center in Florida, on March 13, 1988, to begin its STS-29 mission. The shuttle launch was delayed as NASA engineers replaced high-pressure oxidizer pumps on the spacecraft's main engines. All three of the replacement pumps were tested for flightworthiness at Stennis Space Center prior to launch.

## Hail & Farewell

### NASA welcomes the following:

Roderick Haley	Management and Program Analyst, Office of the Chief Financial Officer
Nicholas Nugent	AST, Flight Systems Test, Engineering & Test Directorate
Allecia Kimble	Computer Scientist, Center Operations Directorate
Adam Murrah	AST, Aerospace Environmental Control Tech, Center Operations Directorate
Angela Jones	Program Analyst, Center Operations Directorate
Jeanne Macksoud	Attorney Adviser, Office of the Chief Counsel

## Office of Diversity and Equal Opportunity

# Find strength/renewal in multiculturalism

*Coming together is a beginning; keeping together is progress; working together is success.*  
Henry Ford

In today's world, we hear a lot about the term "multiculturalism." The definition depends heavily upon the context in which it is used. The concept of multiculturalism is constantly changing as more people make their voices heard to a continually growing audience.

In the United States, multiculturalism is a social and political movement and position that holds differences between individuals and groups to be a potential source of strength and renewal rather than strife. It values the diverse perspectives people develop and maintain through varieties of experience and background stemming from racial, ethnic, gender, sexual orientation and/or class differences in our society. It strives to uphold the ideals of equality, equity and freedom. It is based on, and includes, respect for individuals and groups as a principle fundamental to the success and growth of our workforce.

How can we take this multicultural society that we have become and bring out the best in each individual to strengthen and benefit the whole? We cannot do our best, be highly productive, or create an intriguing environment to learn and give back, unless we appreciate our individual talents and what each of us brings to the table.

As managers or co-workers of an ever-increasingly diverse and inclusive workforce, we have to put forth an effort to treat each other with respect, to enhance one another's abilities and to bring out the abilities that may be hidden within. There are some things that each of us can do to empower one another to be his/her best.

• **Show genuine interest.** Let them know you care. Express genuine interest by asking questions. The simple act of talking and thinking can create an atmosphere that

brings out ideas that could make all the difference in the outcome of a project.

• **Acknowledge what's important to them.** Acknowledgment provides a form of affirmation and validation about who others are and what they're doing. Affirmation and validation is like nitro for their confidence and self-esteem.

• **Say, "Well done."** Nothing worth doing is ever easy. Worthwhile things always take time and effort. One good way of providing encouragement is simply by saying, "Well done" or "Congratulations." These magical words of encouragement can make all the difference between "keep going" and "give up."

• **Reciprocate the favor.** If someone does something nice for you, a great way to show your appreciation is simply to reciprocate the favor.

• **Respond with something unexpected.** An effective way to encourage others is to respond with something out of the blue. That's when maximum impact is delivered. Such acts can reach them at an emotional level, and our brains are hard-wired to respond to emotional things.

• **Offer to lend a hand.** Waiting for someone to ask for advice is passive. Be proactive by offering to lend a hand. If that person sees that you are willing to commit time and energy in their interests, they will be more committed to seeing it through and less likely to give up themselves.

Inspiring one another to be our best and instilling a desire within employees or colleagues to enjoy what they do, while enhancing their abilities, is what each of us should strive to do. Encouraging others not only can help improve our relationships with them, but also help them achieve something great as well.

– Brian Hey, Program Specialist



## Stennis observes Martin Luther King Jr. Day

Several speakers offered personal reflections on the legacy of Martin Luther King Jr. during an annual observance in memory of the civil rights champion on Jan. 18 at Stennis Space Center. The theme of this year's Martin Luther King Jr. Day observance was "Remember. Celebrate. Act." Speakers included (l to r): Capt. A.J. Reiss of the Naval Meteorology & Oceanography Command at Stennis; Ashton Hudson of the Naval Oceanographic Office (NAVO); Amanda Garrett of NAVO; Nadirah Abdul of NAVO; and Rear Adm. Jonathan White of the Naval Meteorology & Oceanography Command at Stennis.

## 2012 Bayou Regional FIRST Robotics tourney set March 15-17

Students from as many as 50 high school teams in seven states are scheduled to compete in the Bayou Regional FIRST (For Inspiration and Recognition of Science and Technology) Robotics Competition March 15-17 at the Pontchartrain Center in Kenner, La.

FIRST is a unique varsity sporting competition designed to teach teamwork and inspire students to pursue education and careers in science, technology, engineering and mathematics fields. Each year, teams from high schools across the nation are given identical parts kits and six weeks to build robots for performing assigned tasks. Teams then use the robots to compete in regional events and earn a spot in a season-ending national tournament.

This year marks the 21st FIRST Robotics Competition season. The 2012 theme is "Rebound Rumble." During the competition, a pair of three-team alliances will compete on a 27-by-57-foot playing field

equipped with higher and lower basketball goals at each end. Teams will try to score as many basketballs as possible during a 2-minute, 15-second match. Balls scored in higher hoops earn more points. Alliances are awarded bonus points if their robots are balanced on bridges at the end of the match. A description and video simulation of the game can be found online by searching keyword – FIRST Robotics.

Expected Bayou Regional participants include 30 teams from Louisiana and seven from Mississippi. Qualifying teams from the Bayou Regional event will join teams from across the country to compete in the FIRST Robotics National Championship on April 25-28 in St. Louis. For more information, visit: [www.bayouregional.org](http://www.bayouregional.org).

NASA and Stennis support FIRST Robotics Competition with mentors, volunteers and contributions. Interested volunteers should call Katie Wallace at 228-688-7744 or email [katie.v.wallace@nasa.gov](mailto:katie.v.wallace@nasa.gov).

## Area teams set to compete March 10 in 1st-ever Gulf Coast SeaPerch Challenge

As many as 25 teams from Louisiana and Mississippi schools are expected to compete in the first-ever Gulf Coast Regional SeaPerch Challenge at the Biloxi (Miss.) Natatorium on March 10.

SeaPerch is an innovative underwater robotics program that provides kits for students to build underwater remotely operated vehicles for various research purposes. The hands-on program is designed to help inspire students in continued studies in science, technology, engineering and mathematics.

For the first-ever Gulf Coast event, teams of four to eight students will operate their robots through an underwater obstacle course. They also will use the robots to meet the 2012 challenge of lifting buckets off the bottom of the pool, simulating the work performed in diving and salvage op-

erations. Points will be awarded for robot performance in each area.

The top two winning teams at the regional event will represent the Gulf Coast at the 2012 National SeaPerch Challenge on April 11-13 in Manassas, Va.

The regional competition features two divisions, for grades 5-8 and for grades 9-12. The event is sponsored by the Naval Research Laboratory at Stennis Space Center, the Office of Naval Research and the National Defense Education Program. The Stennis Education Office is supporting the event with resources and volunteers.

For more information about the Gulf Coast challenge event, visit online at: [www.ramrobots.org/SeaPerch.htm](http://www.ramrobots.org/SeaPerch.htm).

For more information about the SeaPerch Program, visit online at [www.seaperch.org](http://www.seaperch.org).



A pair of Louisiana teachers work together during one of two professional development workshops conducted by the Stennis Education Office on Feb. 10-11. About 90 teachers attended the workshops conducted in Hammond and Baton Rouge.

## Stennis conducts training for Louisiana teachers

Educators from Stennis Space Center held a pair of workshops in Louisiana on Feb. 10-11, providing a professional development opportunity for about 90 teachers.

A workshop at southeastern Louisiana University in Hammond, La., on Feb. 10, attracted 60 pre-service teachers. The workshop was a collaborative effort between the Stennis Education Office, NASA's Human Exploration and Operations Mission Directorate (HEOMD) and the SLU education and mathematics departments.

On Feb. 11, 29 science teachers from across Louisiana visited the Louisiana State University campus in Baton Rouge for a professional development workshop. The workshop was a collaborative effort between the Stennis Education Office, NASA's HEOMD, the Louisiana Department of Education's Math and Science Partnership (MSP) Project, and the LSU Cain Center for Scientific, Technological, Engineering, and Mathematical Literacy.

In both workshops, NASA aerospace, education and technology specialists presented hands-on, problem-

based learning and technology-based activities that are aligned to national standards and can be integrated across the curriculum. Workshop sessions included curriculum guide activities and videos from Stennis Teaching From Space projects: "Spaced Out Sports" and "Food for Thought." Additional sessions included such topics as: What's Next for NASA?, Robotics on a Budget and NASA's BEST (Beginning Engineering, Science, and Technology). Workshop participants received Continuing Learning Units and NASA education materials and resources.

In addition to the workshops, Stennis educators also presented Teaching From Space projects at the Space Exploration Educators Conference at Space Center Houston on Feb. 2-4. Seventy-five teachers attended the Spaced Out Sports and Food for Thought workshops, where they participated in hands-on, inquiry-based activities.

Spaced Out Sports presentations focus on application of Newton's Laws of Motion. The Food for Thought presentation includes learning about space food, nutrition and menu planning for spaceflight.

## NASA College Scholarship Fund calls for applications

The NASA College Scholarship Fund has announced its 2012 agencywide call for applications. NCSF awards scholarships to qualified dependents of former and current NASA employees.

The program celebrates its 30th year during 2012. During the year, up to five scholarships will be awarded in the amount of \$2,000 each. Each scholarship is renewable for a maximum of \$8,000 over a period of six calendar years. Deadline for scholarship applications is March 31.

All applicants must have a high school diploma or be enrolled in a college. An applicant also must have a combined high school and college grade point average of 2.5 or greater on a 4.0 scale.

NASA College Scholarship Fund information is available online at <http://nasapeople.nasa.gov/nasascholarship/index.htm>. For additional details, individuals also may call Joy Smith, scholarship program manager at Stennis Space Center, at 228-688-2118.

## Stennis DEVELOP Program kicks off spring term

Stennis Space Center kicked off its 2012 spring DEVELOP Program with a visit to the American Meteorological Society conference in New Orleans on Jan. 22-26.

DEVELOP Student Director Brandie Mitchell, Assistant Student Director Jason Jones and Young Professional Matt Batina manned a recruiting table during the AMS Career Fair. During the four-day conference, Jones also delivered a DEVELOP overview/recruiting presentation on the NASA Hyperwall.

Students from the DEVELOP team in Mobile, Ala., which partners with Stennis Space Center, also attended the recent conference. Team members presented a poster titled "Analyzing Tropical Cyclone-Induced Precipitation and Flooding Using TRMM, the University of South Alabama Mesonet, and NEXRAD Data" during the student poster session.